



VEHICLES



AEROSPACE



GEARS + BEARINGS



ENGINEERING



WIND ENERGY



FINISHING AND FINE FINISHING

with PMC-OP and PMCM-OP milling cutters

Economical finishing and fine finishing

Economical finishing and fine finishing with eight cutting edges. The milling cutters of the PMC-OP and PMCM-OP family work with octagon cutting inserts with eight cutting edges per insert and adjustable seatings.

The octagon cutting inserts have a clearance angle of 11° and ensure soft cutting with low axial and radial forces. Thin-walled workpieces and workpieces in unfavorable clamping setups can still be machined reliably.

Highest surface quality with a Ra of $0.5 \mu\text{m}$ and dimensional accuracy, also for the longest milling path, is the perfect territory for the PMC-OP and PMCM-OP milling cutter. The finishing cartridges are equipped with the Easy-Quick-Adjust-System. This system allows setting the finishing cartrid-

ges fast and free of play as well as very precise in all axial directions with only one tool. With its constructive design, the Easy-Quick-Adjust-System works absolutely free of displacing, also when machining the longest finishing operations.

The tight tolerances of the octagon cutting inserts and the insert seat of the finishing cartridge make it possible to switch to a new cutting edge, without having to adjust the milling cutter.

Easy handling and top performance make the PMC-OP and PMCM-OP milling cutter the milling system of choice, when finishing and fine finishing cast iron work pieces.



Face milling cutter PMC-OP

Type with finishing cartridge: PMC-OP



Face Milling
Finish Milling up to Ra 1.6

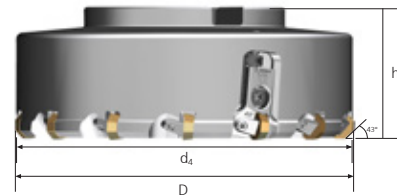
$v_c = 600 - 1200$ m/min
 $f_z = 0,12 - 0,30$ mm
 $a_p = 0,2 - 0,8$ mm

$\frac{3,2}{\nabla} / \frac{1,6}{\nabla}$

Positive cutting inserts

Stable/unstable components

With/without cooling



With finishing cartridge (43°)						
Type	SPK-Order Nr.	Dimensions				
		D	t	d ₄	h ₁	n _{max} (min ⁻¹)
Standard pitch						
PMC-100-10OP0543R-AM	771.20.421.54	100	9+1	108.5	63	8000
PMC-125-12OP0543R-AM	771.20.421.64	125	10+2	133.5	63	8000
PMC-160-14OP0543R-AM	771.20.421.74	160	12+2	168.5	63	6000
PMC-200-20OP0543R-AM	771.20.421.84	200	18+2	208.5	63	4000
PMC-250-24OP0543R-AM	771.20.421.94	250	21+3	258.5	63	3000
Wide pitch						
PMC-160-10OP0543R-AM	771.20.121.74	160	8+2	168.5	63	6000
PMC-200-14OP0543R-AM	771.20.121.84	200	12+2	208.5	63	4000
PMC-250-18OP0543R-AM	771.20.121.94	250	16+2	205.5	63	3000

Insert	Type	Grade	K											H	S	P	SPK-Order Nr.													
			GJL			GJS			ADI	SI GJS	GJV																			
			EN-GJL 150	EN-GJL 200	EN-GJL 250	EN-GJL 300	EN-GJL 350	EN-GJS 400-15	EN-GJS 500-7	EN-GJS 600-3	EN-GJS 700-2	EN-GJS 800-2	EN-GJS 800-8	EN-GJS 1000-5	EN-GJS 1200-2	EN-GJS 1400-0	EN-GJS 450-18	EN-GJS 500-14	EN-GJS 600-10	EN-GJV 300	EN-GJV 350	EN-GJV 400	EN-GJV 450	EN-GJV 500	STAHL HART	KOKILLENGUSS	SPEZ. LEGIERUNG	STAHL		
OPHN 05 04 .. T-S Z120 	OPHN 050404 E00040 - 43Z120	SC 60	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◇	◇	◇											46.75.012.70.6
OPHN 05 04 .. T-S Z150 	OPHN 050404 T-S 43Z150	WBN 115	◆	◆	◆	◆	◆	◇	◇	◇	◇	◇					◇	◇	◇											12.68.001.03.0
OPHN 05 04 .. T01020 	OPHN 050408 T01020	SL 808	◆	◆	◆	◆	◆	◇	◇	◇	◇	◇					◇	◇	◇											17.72.005.20.1
OPHN 05 04 .. T01020 	OPHN 050412 T01020	SL 500	◆	◆	◆	◆	◆										◇	◇	◇											36.72.001.20.0
	OPHN 050412 T01020	SL 808	◆	◆	◆	◆	◆	◇	◇	◇	◇	◇					◇	◇	◇											17.72.001.20.1
	OPHN 050412 T01020	SL 854 C	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	17.72.001.20.9
	OPHN 050412 E00040	SC 60	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆				◇	◇	◇											46.75.012.70.6
OPHN 05 04 ZZ T01020 	OPHN 0504ZZ T01020	SL 500	◆	◆	◆	◆	◆										◇	◇	◇											36.72.002.20.0

ISO application group

K ■ Cast Iron	H ■ Hard materials	S ■ Special alloy	P ■ Steel	Main application ◆	Additional application ◇
---	---	--	--	--	--

Face milling cutter PMCM-OP

Type with fine finishing cartridge: PMCM-OP



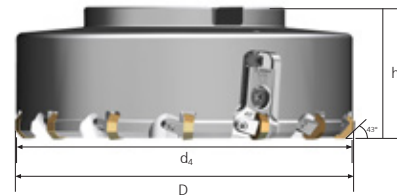
Face milling
Fine milling up to Ra 0,8

$v_c = 600 - 1200 \text{ m/min}$
 $f_z = 0,12 - 0,30 \text{ mm}$
 $a_p = 0,2 - 0,8 \text{ mm}$

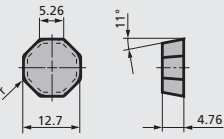
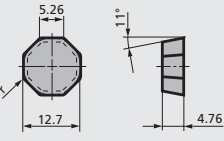
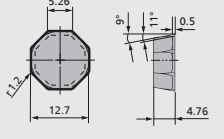
3.2 / 0.8

Positive cutting inserts
Stable/unstable components

With/without cooling



With fine finishing cartridge (45°)						
Type	SPK-Order Nr.	Dimensions				
		D	t	d ₄	h ₁	n _{max} (min ⁻¹)
Standard pitch						
PMCM-100-10OP0543R-AM	771.20.521.54	100	9+1	108.5	63	8000
PMCM-125-12OP0543R-AM	771.20.521.64	125	10+2	133.5	63	8000
PMCM-160-14OP0543R-AM	771.20.521.74	160	12+2	168.5	63	6000
PMCM-200-20OP0543R-AM	771.20.521.84	200	18+2	208.5	63	4000
PMCM-250-24OP0543R-AM	771.20.521.94	250	21+3	258.5	63	3000
Wide pitch						
PMCM-160-10OP0543R-AM	771.20.221.74	160	8+2	168.5	63	6000
PMCM-200-14OP0543R-AM	771.20.221.84	200	12+2	208.5	63	4000
PMCM-250-18OP0543R-AM	771.20.221.94	250	16+2	205.5	63	3000

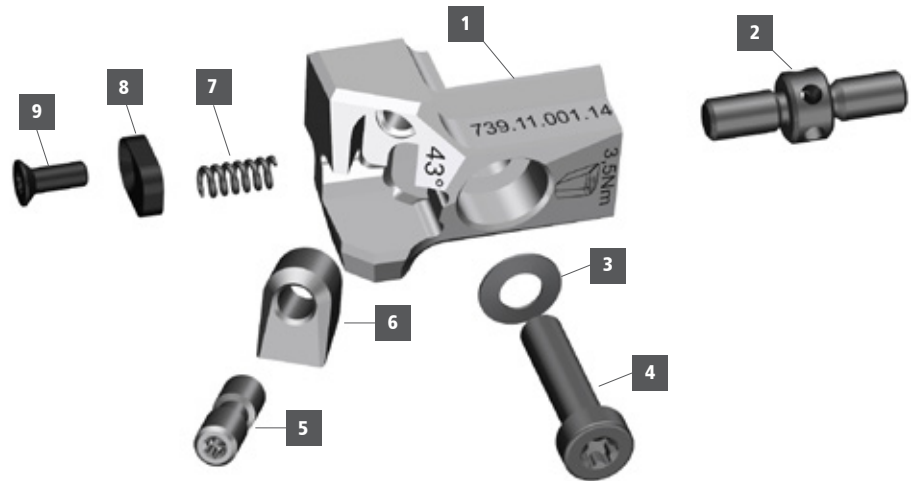
Insert	Type	Grade	K													H	S	P	SPK-Order Nr.											
			GJL				GJS				ADI		SI GJS		GJV															
			EN-GJL 150	EN-GJL 200	EN-GJL 250	EN-GJL 300	EN-GJL 350	EN-GJS 400-15	EN-GJS 500-7	EN-GJS 600-3	EN-GJS 700-2	EN-GJS 800-2	EN-GJS 800-8	EN-GJS 1000-5	EN-GJS 1200-2	EN-GJS 1400-0	EN-GJS 450-18	EN-GJS 500-14	EN-GJS 600-10	EN-GJV 300	EN-GJV 350	EN-GJV 400	EN-GJV 450	EN-GJV 500	STAHL HART	HARTGUSS	KOKILLEGUSS	SPEZ. LEGIERUNG	STAHL	
OPHN 05 04 .. T01020 	OPHN 050408 T01020	SL 808	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆											23.42.334.03.2
OPHN 05 04 .. T01020 	OPHN 050412 T01020	SL 500	◆	◆	◆	◆	◆										◆	◆	◆											36.72.001.20.0
	OPHN 050412 T01020	SL 808	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆											17.72.001.20.1
	OPHN 050412 T01020	SL 854 C	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					17.72.001.20.9
OPHN 05 04 .. T-S X 	OPHN 050412 T-S-8XR300W9	WBN 115	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆											12.68.003.20.0

ISO application group

K ■ Cast Iron	H ■ Hard materials	S ■ Special alloy	P ■ Steel	Main application ◆	Additional application ◆
---	---	--	--	---	--

Assembly instructions

for milling cutter PMC and PMCM



1	Cartridge
2	Setting screw
3	Disc spring
4	Clamping screw
5	Double threaded screw
6	Wedge
7	Compression spring
8	Cover plate
9	Countersunk screw

Assembly instructions

Screw the setting screw (2) into the rear side of the cartridge until it reaches the centre of the hole circle.

Insert the cartridge in the prismatic guide and screw the setting screw (2) into the body until the cartridge head slightly protrudes.

Gently fix the cartridge with the clamping screw (4) and disc spring (3).

Fasten the compression spring (7) and cover plate (8) with the countersunk screw (9).

Screw the double threaded screw (5) into the wedge (6) and screw it into the cartridge using an SW2 Allen key.

PMC AND PMCM SETTING INSTRUCTIONS

1	Place the milling cutter fitted with cartridges and cutting inserts onto the setting device.
2	Gently tighten the cartridge clamping screw.
3	Gently fix the cartridge with the clamping screw (4) and disc spring (3).
4	Set all cutting inserts in the cartridge to the same height like the insert in the fixed pocket seat with the aid of the cartridge setting screw (Figures A+B). - Fine setting of the cartridges on the side of the milling cutter (Figure B)
5	Height measuring point with the milling cutter type PMC and PMCM with finishing (43°) and fine finishing (45°) cartridge (see Figure C): - The height measuring point at the finishing and fine finishing cartridges is on the cutting corner of the cutting insert - The height measuring point at the fixed pocket seat is too on the cutting corner of the cutting insert
6	Set the fine finishing cartridges 0.03 - 0.05 mm higher than the finishing cartridges.

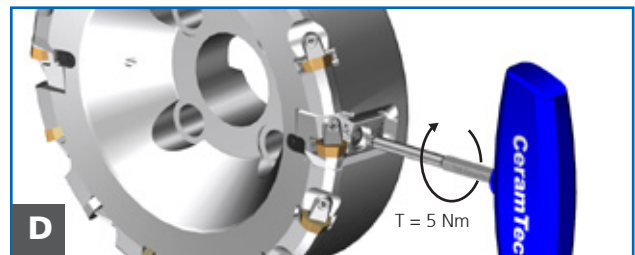
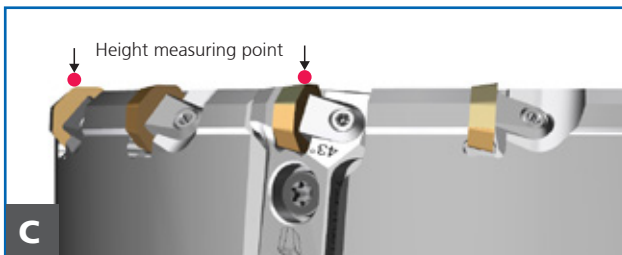
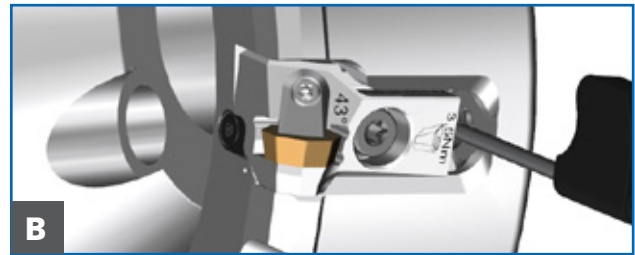


Illustration A - D also valid for 45° fine finishing cartridges

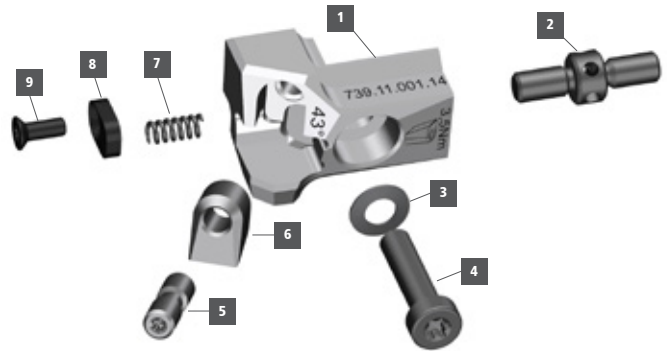
Finishing and fine finishing setting of the PMC and PMCM milling cutters

The PMC and PMCM produces excellent surface quality with the following setting instruction:

- Set the axial run-out of all cartridges
- Set the cartridges 0.03 - 0.05 mm higher than the inserts in the fixed pocket seats

With this setting, the cutting inserts in the cartridges produce the surface quality, while the cutting inserts in the fixed pocket seats remove the material in feed direction.

Spare parts for PMC and PMCM milling cutters



**Finishing cartridge (43°)
for type PMC**
SPK order no. 739.11.001.14



**Fine finishing cartridge (45°)
for type PMCM**
SPK order no. 739.11.002.14

1	Wedge and double threaded screw are included in the delivery!
---	---

		Description	SPK Order No.
2		Setting screw	70.91.50.917.0
3		Disc spring	70.91.55.718.0
4		Clamping screw	70.91.50.916.0
5		Double threaded screw	70.91.50.648.0
6		Wedge	70.91.55.696.0
7		Compression spring	70.91.55.717.0
8		Cover plate	70.91.55.716.0
9		Countersunk screw	60.09.63.002.0

Torx bit 25  70.91.55.710.0	SW 2  70.91.55.725.0	Cross handle  70.91.55.706.0	Torx 9  70.91.55.218.0
---	--	--	--

